

STUDIES IN ICHNANTHUS (GRAMINEAE). II.
NEW TAXA AND A NEW NAME
IN SECTION FOVEOLATA

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ICHNANTHUS AREOLATUS K. E. Rogers, sp. nov.

Plantae robustae, ad basim repentes atque ad nodos se radicantes, usque ad 3 m vel plus longae; internodi villosi; nodi plerumque albo-villosi; vaginae villosae vel supremis glabrescentes; laminae plerumque crassiorae firmaeque, pagina superior plerumque manifesto areolata; paniculae terminales dense florentes, 10-19 cm longae, 6-11 cm latae; spiculae 3.5-4.5 mm longae; glumae et lemmata inferiora perfirmiter membranosa, aliquantulum scabrida; inferior palea elliptica, apex insigniter ciliatus; rachilla-appendiculae 0.7-0.9 mm longae.

Plants rather stout, robust, usually extensively branching, creeping at the base and rooting at the nodes, sometimes to 3 m or more in length, with ascending flowering branches; internodes villous, as much as 11 cm long; nodes usually white-villous; sheaths villous or the uppermost glabrescent, mostly 2-6 cm long, about 1/3-3/4 the length of the internodes, firm; collar pubescent; ligule membranous-ciliate, 1.3-2.4 mm long; blades usually rather thick and firm, 5-14 cm long, 1.5-5.0 cm wide, asymmetric, ovate-acuminate to elliptic-acuminate, the upper surface usually conspicuously areolate, sparsely pubescent or glabrous, the nerves somewhat scabrid, the lower surface puberulent or glabrescent, the margins thick and scabrous; panicles terminal and axillary; terminal panicles densely flowered, 10-19 cm long, 6-11 cm wide, about 1/2 as wide as long, compound, the primary branches spreading-ascending, the lowest to 15 cm long, the secondary branches ascending to appressed, to 4 cm long, the tertiary branches as much as 2.5 cm long; rachises scabrous and more or less pubescent; pulvini pilose; peduncles pubescent, as much as 15 cm long; spikelets paired and solitary, elliptic-acute, 3.5-4.5 mm long, the glumes more or less spreading short pubescent; glumes and lower lemma rather firmly membranous, somewhat scabrid; first glume ovate-acuminate, 2.5-3.2 mm long, 1/2-2/3 the length of the lower floret, 3-5 nerves; second glume ovate-acuminate, 3.1-3.6 mm long, 5-9 nerved; lower floret staminate, the stamens 1.3-1.7 mm long; lower lemma elliptic-ovate, hooded at the apex, 2.7-3.1 mm long, 5-9 nerved; lower palea elliptic, about 0.9 the length of the lower lemma, rather conspicuously ciliate at the apex, 2.3-2.7 mm long; upper floret elliptic-acute, 1.7-2.1 mm long, 0.8-1.1 mm wide; rachilla-

appendages 0.7-0.9 mm long.

Holotype: Issorora, Aruka River, lat. 8 degrees 10 min N, long. 59 degrees 50 min W, edge of forest in low grounds, British Guiana, collected by A. S. Hitchcock, no. 17562, January 17, 1920 (GH; isotypes at MO, P, NY, F, IAN).

Additional specimens examined: Tobago: Hitchcock 10263a, b (US). Trinidad: Tabaquite, Hitchcock 10129 (US); *ibid*, Hitchcock 585 (US, P, NY, MO, F, GH). British Guiana: vicinity of Tumatumari, on Potaro River, Hitchcock 17409 (US, NY, IAN, F, GH, MO, P, K); *ibid*, Hitchcock 17352 (US); Jenman 7114 (K). Brazil: Para, Belem, Pires and Black 16 (IAN). French Guiana: Mari-pasoula, Hoock-Cayenne 1059 (K).

This species is distinguished by its comparatively large size, rather thick leaves with usually conspicuous surface cells or areolae, large panicles, and the usually villous nodes, internodes, and sheaths.

The specific epithet refers to the pattern of surface cells on the leaf-blades.

ICHNANTHUS ATTENUATUS K. E. Rogers, sp. nov.

Culmi graciles, elongati, se ad nodos radicanes, ramosi; vaginæ sparsim pilosae vel glabrae; ligula membraneo-ciliata, ferme 1.0 mm longa; laminae tenues, anguste lanceolatae, apice acuminatae; paniculae terminales ac axillariae, nonnullae e superioribus vaginis, rami graciles alternati, simplices; spiculae anguste elliptico-attenuatae, 4.0-4.5 mm longae; gluma prima ovato-attenuata, 4.0-4.3 mm longa, perparum pilosa per marginem vel glabra, multo longior quam lemma inferius, paulum brevior quam gluma altera vel etiam perum longior; gluma altera elliptico-attenuata; flosculus superior anguste elliptico-acutus; rachilla-appendiculae 0.5-0.7 mm longae.

Perennial (?); culms slender, elongate, rooting at the nodes, branching; internodes pilose in lines on one side; nodes sparsely pilose; sheaths sparsely pilose or glabrous, about 1/4-1/2 the length of the internodes, 1 cm long or the uppermost as much as 3.0 cm long; collar pubescent; ligule membranous-ciliate, about 1.0 mm long; blades asymmetric, thin, narrowly lanceolate, apex acuminate, 3-7 cm long, 0.5-1.5 cm wide, the upper surface slightly scaberulous on the nerves, the lower surface glabrous, the margins papillose-ciliate at the base; panicles several from the terminal and upper sheaths, well exerted, 4-5 cm long, the slender branches alternate, simple, the lowest to 4.0 cm long; rachis scaberulous and short pubescent; pulvini pilose; pedicels scaberulous and short pubescent, the longer 1.5-3.0 mm long, the shorter 0.2-0.4 mm long; spikelets paired and solitary, narrowly

elliptic-attenuate, 4.0-4.5 mm long; glumes and lower lemma membranous; first glume ovate-attenuate, 4.0-4.3 mm long, sparsely pilose along the margin or glabrous, much exceeding the lower lemma, a little shorter than to slightly exceeding the second glume, 3-nerved; second glume elliptic-attenuate, 3.8-4.3 mm long, 5-nerved; lower floret staminate, the stamens 1.3 mm long; lower lemma elliptic-acute, 3.0-3.2 mm long, 5-nerved; lower palea elliptic-obtuse, 2.1-2.3 mm long, 0.6 mm wide, ciliate on the nerves, about 3/4 the length of the lower lemma; upper floret narrowly elliptic-acute, 1.9-2.0 mm long, 0.8 mm wide, stipe about 0.2 mm long; rachilla-appendages 0.5-0.7 mm long.

Holotype: Brazil, tropical, Burchell, no. 6924 (K, no. H977/67-7; isotypes at P, NY, US).

Additional specimens examined: Brazil: Maranhão: Rio Pindaé, Monção, Fróes, 20322 (US, IAN).

I. attenuatus is distinctive by its slender elongate culms, narrowly lanceolate blades, slender panicle branches, and attenuate glumes, the first glume much exceeding the lower lemma.

The specific name refers to the shape of the glumes.

ICHNANTHUS BRADEI K. E. Rogers, sp. nov.

Culmi verrentes, radices ut grallas graciles monstrantes, ramosi, sparsim pilosi vel glabrescentes; ligula ferme 3.5 mm longa, cilia ferme 2.0 mm longa; laminae subtenuis, late lanceolatae, 9-13 cm longae, 1.5-3.5 cm latae, magna ex parte glabrosae; paniculae terminales, 8-15 cm longae, 4-11 cm latae; pedunculi elongati usque ad 24 cm longi; spiculae 4.8-5.5 mm longae, glabrosae; flosculus superior 2.6-2.8 mm longus; rachilla-appendiculae circa 0.9 mm longae.

Perennial; culms trailing, with slender stilt roots, branching, sparsely pilose or glabrescent; sheaths loose, 1/3 to 1/2 the length of the internodes on the main culms, overlapping on the branches, to 6.5 cm long, pilose on the margins; collar pubescent; ligule membranous-ciliate, about 3.5 mm long, the cilia about 2.0 mm long; blades thinnish, broadly lanceolate, asymmetric, the apex acuminate, the base more or less cordate, reticulate-veined on the undersurface, 9-13 cm long, 1.5-3.5 cm wide, essentially glabrous; panicles terminal, two or more from the uppermost sheath, 8-15 cm long, 4-11 cm wide, the branches lax, as much as 8 cm long; rachis glabrous or nearly so; pulvini pilose; peduncles elongate, up to 24 cm long; longer pedicels 2.0-4.0 mm long, the shorter about 0.5 mm long; spikelets paired and solitary in the inflorescence, 4.8-5.5 mm long, elliptic-acute, glabrous; glumes and lower lemma membranous; first glume 3.5-4.3 mm long, ovate, acute to acuminate, 2/3 to nearly

equalling the lower lemma, 3-(-5) nerved; second glume 4.5-5.1 mm long, elliptic-acuminate, 5-nerved; lower floret staminate, the stamens 1.8-2.1 mm long; lower lemma 4.0-4.3 mm long, elliptic-acute, the apex hyaline, somewhat hooded, 5-nerved; lower palea 3.0-3.4 mm long, elliptic-obtuse, about 3/4 the length of the lower lemma; upper floret 2.6-2.8 mm long, elliptic-acute; upper stamens about 1.8 mm long; rachilla-appendages about 0.9 mm long.

Holotype in the herbarium of Jardim Botânico do Rio de Janeiro, Brazil, collected at Pedra do Frade, Serra dos Orgaos, Estado do Rio de Janeiro, Brazil, by Brade 16601. Isotype at IAN.

Additional specimens examined: Brazil: Rio de Janeiro: Terezopolis, Black and Adler 51-11428 (IAN).

The species is named for the collector.

ICHNANTHUS BREVIPANICULATUS K. E. Rogers, sp. nov.

Culmi verrentes, multis nodis ramosi, se ad inferiores nodos radicantes; internodi se extendentes papilloso-pilosos; nodi papilloso-pilosi; vaginae papilloso-pilosae pilos usque ad 2.5 mm longos gerentes; ligula membraneo-ciliata, ferme 1.0 mm longa; laminae ellipticae, apice subito brevi-acuminatae; paniculae terminales et axillariae sparsim florentes; spiculae 4.6-5.1 mm longae; gluma prima inter nervos laterales papilloso-pilosa; gluma altera inter nervos laterales papilloso-pilosa; flosculus superior 2.5-2.7 mm longus; rachilla-appendiculae circa 1.0 mm longae.

Apparently annual; culms trailing, branching at many nodes, rooting at the nodes, with ascending flowering branches as much as 16 cm tall; internodes spreading papillose-pilose, 1-4 cm long; nodes papillose-pilose; sheaths spreading papillose-pilose with hairs to 2.5 mm long, 0.5-2.5 cm long, about 1/2 the length of the internodes on the main culm, shorter than the internodes or overlapping on the branches; collar papillose-pilose; ligule membranous-ciliate, about 1.0 mm long, the cilia about 0.5 mm long; blades asymmetric, elliptic, the apex abruptly short acuminate, 1.2-3.2 cm long, 0.7-1.5 cm wide, papillose-pilose on both surfaces; inflorescence of terminal and axillary panicles, sparsely flowered, 1.5-3.0 cm long, 1.0-1.8 cm wide; terminal panicles 1-3 from the uppermost sheath, on peduncles as much as 8.5 cm long, branches simple, the lowest to 1.5 cm long, alternate, spreading-ascending; axillary panicles on slender peduncles; rachises and pedicels scabridulous and more or less pilose; pulvini pilose; longer pedicels 3.0-6.0 mm long, the shorter 0.5-2.3 mm long; spikelets elliptic-acute, tinged with purple, 4.6-5.1 mm long; glumes and lower lemma membranous; first glume

ovate-acute, 3.1-3.6 mm long, papillose-pilose between the lateral nerves, 0.65-0.8 the length of the lower lemma, 3-nerved; second glume elliptic-acuminate, 4.6-4.7 mm long, papillose-pilose between the lateral nerves, 5-nerved; lower lemma elliptic, the apex somewhat hyaline and scarcely hooded, 4.0-4.3 mm long; lower palea elliptic-acute, narrow, about 2.3 the length of the lower lemma, 2.3-2.4 mm long; upper floret narrowly elliptic-acute, 2.5-2.7 mm long, about 0.8 mm wide, on a stipe about 0.2-0.3 mm long; rachilla-appendages about 1.0 mm long.

Holotype: Monte Serrate, Serra do Itatiaia, Estado do Rio, Brazil, collected by Brade no. 10063, June 16, 1930 (R, no. 49496; isotype at IAN).

Additional specimens examined: Brazil: Estado do Rio: Sto. Antonio de Fimbré (?), Brade and Lima 11715 (R).

The specific name brevipaniculatus is descriptive of the short panicles.

ICHNANTHUS CONFERTUS K. E. Rogers, sp. nov.

Culmi decumbentes, se extendentes, se ad nodos radicanes, villosi; nodi villosi; vaginae plerumque villosae; laminae ovato-acutae demum elliptico-acutae, pagina inferiori glabrosae vel pubescentes, plerumque manifestas superficiales cellulas in superiores vel saepe in inferiores paginas gerentes; paniculae flores stipatas gerentes; pulvini, inferiores praesertim, longopilosi; spiculae elliptico-acutae, 2.5-3.5 mm longae, leviter turgidae; flosculus inferior evidenter sterilis; flosculus superior 1.5-1.8 mm longus, 0.8-1.0 mm latus, sectus ex transverso manifeste triangularis atque carinatus maturus, versus per quadricirculum (90°) in longum axem in spiculo maturus.

Perennial; culms decumbent-spreading, rooting at the nodes, branched, the erect to ascending shoots 10-50 cm tall, villous; nodes villous; sheaths 1/4-2/3 the length of the internodes, or overlapping on new shoots, 1.0-3.0 cm long, usually villous; collar pubescent; ligule membranous-ciliate, truncate, 0.7-2.0 mm long; blades ovate-acute to elliptic-acute, 3-10 cm long, 1.0-3.5 cm wide, more or less clasping at the asymmetric base, the upper surface smooth or scabrid on the nerves and sometimes with soft hairs along the margin and toward the apex, the lower surface glabrous or pubescent, usually with conspicuous surface cells on the upper and often the lower surface, the margins narrowly cartilaginous and scabrid, papillose-ciliate at the base; panicles terminal and axillary, partly included to exerted, compactly flowered; terminal panicles 1.5-6.0 cm long, 1.0-4.0 cm wide, composed of few to several short ascending branches mostly 1.0-5.0 cm long; pulvini, especially the lower, long pilose, peduncles pubescent or glabrous; spikelets elliptic-

acute, 2.5-3.5 mm long, glabrous, bright green, sometimes vegetative, slightly turgid; glumes and lower lemma firmly membranous, the margins hyaline; first glume ovate-acute, 1/2-3/4 the length of the lower floret, 1.5-2.3 mm long, 3-nerved; second glume elliptic-acute, 2.3-3.3 mm long, equalling or slightly exceeding the lower lemma, mostly 5-nerved; lower floret apparently sterile; lower lemma elliptic, cucullate, 2.0-2.5 mm long, 5-nerved; lower palea elliptic-acute, 1.5-2.0 mm long, 0.8-1.1 mm wide, about 0.8 the length of the lower lemma, the nerves ciliate, the back surface glabrous; upper floret 1.5-1.8 mm long, 0.8-1.0 mm wide, conspicuously triangular in cross-section and keeled when mature, on a stipe about 0.2-0.4 mm long, rotated 90 degrees on its long axis in the spikelet when mature; margins of the upper lemma inrolled; rachille-appendages 0.5-0.7 mm long.

Holotype: Vicinity of Tumatumari, on Potaro River 5 degrees 20 min N latitude, in open ground in forest along trail to Washerwoman's Falls, British Guiana, collected by A. S. Hitchcock, no. 17376, January 5, 1920 (US, no. 1038523; isotypes at F, GH, IAN, K, MO, NY, P, W).

Additional specimens examined: Trinidad: El Tucuche Mountain, Soderstrom 1053 (US); Arima Valley, N. Range, Cowan and Simmonds 1210 (US, K); Vicinity of Tabaquite, Britton, Freeman and Nowell 2607 (NY); Broadway 5361 (MO, F); Broadway 6004 (K, MO); Fendler 923 (E). Honduras: Olancho: between Catacamas and La Presa, Standley 18546 (F). Atlantida: Lancetilla Valley, Standley 52968 (F, US). Nicaragua: Zelaya: Standley 19785 (F). Costa Rica: Limon: vicinity of Guapiles, Standley 37276 (US). Panama: Canal Zone: Frijoles, Hitchcock 8398 (GH, US). Darien: Chepijana, Terry and Terry 1510 (F, GH, MO). Venezuela: Bolivar: Gran Sabana on Rio Kukenan N of Santa Elena, Steyermark 59232 (VEN, F, NY). Monagas: La Horwiga, Wurdack and Monachino 39518 (F, NY, P, RB, US, VEN). Delta Amacuro: Steyermark 87186-A (VEN, NY). British Guiana: Tumatumari, Hitchcock 17411 (GH, US); Gleason 115 (NY); Kamuni Creek-Groete Creek, Essequibo Riber, Maguire and Fanshawe 22843 (GH, NY); Lama, Jenman 7527, 9572 (K); Pomeroun River, De La Cruz 3116 (GH, F, MO, NY); Jacoba Creek, Land and Persaud 261 (F). Surinam: Kegel 138 (P); Nassau, Lanjouw and Lindeman 2925 (NY, IAN, K), 2934 (NY, IAN). French Guiana: Melinon s.n., in 1842 (MO, P); Soldanha 228 (IAN); Benoist 186 (P); Leschenault s.m. (P). Ecuador: Los Rios: Rio Pita, Cerro Mombo, Asplund 5529 (US). Pichincha: between Santo Domingo and Quininde, Acosta-Solis 14005 (US). Imbabura: Lita, Acosta-Solis 12156 (F, US). Guayas: Teresita, W of Bucay, Hitchcock 20426 (GH, NY). Oro: between La Chorita and Portovelo, Hitchcock 21202 (GH, NY). Napo-Pastaza: Puyo, Skutch 4413 (NY, US); Canton Napo, Tena to Napo, Mexia 7179 (F). Peru: Huanuco: Tinga Maria, Asplund 12498 (NY), 12212 (US); Ferreyra 1915 (GH). Loreto: Rio Huallaga, Williams 4422 (F). Brazil: Amapa: Rio Araguari, Pires et al 50932 (NY); Rio Oiapoque, Froes 25857, 26038 (IAN).

I. confertus is distinguished by the presence of surface cells or areolae on one or both surfaces of the blades, the sterile lower floret, the compact panicles, and the keeled triangular upper floret. It is closely allied to I. brevivaginat Swallen which has larger, usually pubescent spikelets, acuminate to attenuate glumes, and lanceolate blades.

The specific epithet given to this species is descriptive of the panicles, which are typically compact.

ICHNANTHUS GLAZIOUI K. E. Rogers, nomen nov.

I. candicans var. glabratus Doell in Mart. in Martius Fl. Bras. 2(2). 1877. Lectotype: Brazil: Rio de Janeiro, Glaziou 4323 (F, No. 538472). Isolectotypes at K, P, IAN, NY, W. I. candicans var. glabratus f. grandiflorus Doell in Mart. in Martius Fl. Bras. 2(2). 1877.

Apparently annual; culms slender, rooting at the lower nodes, with many ascending flowering branches; internodes sparsely papillose-pilose in lines or nearly glabrous; sheaths 1.5-3.5 cm long, 1/5 the length of the internodes to exceeding them, the margins ciliate; collar glabrous or nearly so; ligule membranous-ciliate, 1.3-2.0 mm long, the cilia 0.5-0.8 mm long; blades thin, narrowly lanceolate, long acuminate, asymmetric, rounded at the base on one side, smooth or scabridulous toward the apex, 6.5-10 cm long, 0.7-1.6 mm wide; inflorescence paniculate, with few spikelets, terminal and axillary, numerous on slender peduncles; terminal panicles mostly three, 5-8 cm long, 1-6 cm wide, on peduncles of dissimilar lengths up to 20 cm long; axillary panicles on long peduncles; lowest primary branches as much as 4.5 cm long; rachis sparsely scaberulous; spikelets elliptic-acute, glabrous or sparsely pilose on the upper margins of the glumes, 5.0-6.5 mm long; glumes and lower lemma membranous; first glume 3.5-5.0 mm long, ovate-acuminate, the mid-nerve shortly excurrent, scabridulous, 3-5 nerved; second glume 4.7-5.2 mm long, elliptic-acuminate, scabridulous on the mid-nerve, 5-9 nerved; lower floret staminate, the stamens 2.0-2.2 mm long; lower lemma 4.2-4.5 mm long, elliptic, the apex hooded and hyaline, 5-7 nerved; lower palea 3.0-3.5 mm long, about 3/4 the length of the lower lemma; upper floret 2.6-2.8 mm long, about 1.0 mm wide, narrowly elliptic-acute; rachilla-appendages about 1.0 mm long.

Additional specimens examined: Brazil: Rio de Janeiro: Petropolis, Chase 12177 (US); prope Petropolis, Ball s.n. (E); Glaziou 3152 (US, P, W). Minas Geraes: Caldes, Lindberg 655 (US). Rio Grande do Sul, Morro de Glorio, Porto Alegre, Rambo 29037 (US).

ICHNANTHUS HITCHCOCKII K. E. Rogers, sp. nov.

Culmi elongati, ramificantes, se ad inferiores nodos radican-
cantes; internodi molliter pilosi; nodi molliter pilosi; vaginae
pilosae vel superioribus glabrosae; laminae subtenuae, pagina
superior paucos sparsos longos pilos manifestans vel glabrosa,
pagina inferior puberulenta; paniculae terminales et axillariae;
spiculae 4.0-5.2 mm longae, glabrosae; flosculus superior ellip-
tico-acutus, 2.0-2.2 mm longus; rachilla-appendiculae feræ 0.7
mm longae.

Perennial; culms elongate, branching, rooting at the lower
nodes, with ascending flowering branches; internodes soft pilose,
as much as 6 cm long; nodes soft pilose; sheaths shorter than
the internodes, mostly 1-3 cm long, pilose or the uppermost
glabrate; collar pubescent; ligule membranous-ciliate, about 1.2
mm long; leaf-blades thinnish, lanceolate, short acuminate, in-
equilaterally cordate at the base, 4-8 cm long, 1.3-2.5 cm wide,
the upper surface with a few scattered long hairs or glabrous,
the lower surface puberulent; inflorescence of terminal and
axillary panicles; terminal panicles exserted, 7-9 cm long, as
much as 6 cm wide, the lowest primary branches to 5 cm long, the
secondary branches as much as 1.5 cm long; rachises scaberulous;
pulvini pilose; axillary panicles exserted, as much as 11 cm
long; spikelets paired and solitary, 4.0-5.2 mm long, glabrous;
glumes and lower lemma membranous; first glume ovate-acuminate,
2.5-3.5 mm long, shorter than the lower lemma, 3-nerved; second
glume elliptic-acuminate, 4.0-5.0 mm long, 5-7 nerved; lower
lemma elliptic-acuminate, 3.5-4.0 mm long, 5-7 nerved; lower
palea about equalling the lower lemma; upper floret elliptic-
acute, 2.0-2.2 mm long; rachilla-appendages about 0.7 mm long.

Holotype: Mariposoula (?), French Guiana, collected by
J. Hooek-Cayenne, s.n., January 30, 1956 (NY).

Additional specimens examined: Trinidad: Esin Savanna,
Soderstrom 1119 (K). French Guiana: Mariposoula, Hooek-Cayenne
1067 (P); *ibid*, Hooek-Cayenne 74 (P); *ibid*, Hooek-Cayenne 75;
Karoway 662 (P). British Guiana: Thurman s.n. (K). Brazil:
Amazonas: Rio Negro, S. Gabriel, Black 48-2525 (IAN); *ibid*,
Black 48-2493 (IAN). Para: Rio Maicuru, Cateia, Black 57-20136
(IAN); Rio Vermelho, regiao do Tocantins, Froes, 27043 (IAN).
Amapa: Lago Bom Nome, Fazenda Queimadas, Black and Lobato
50-9390 (IAN). Bolivia: Rio Guapore, Porto da Paz, Black
and Cordeiro 52-15031 (IAN).

This species is named for A. S. Hitchcock.

ICHNANTHUS ITACOLUMENSIS K. E. Rogers, sp. nov.

Culmi graciles, elongati, ramosi, 3 m longi vel plus, multas

radices ut grallas monstrantes; internodi plus minusue brevipilosi; ligula membraneo-ciliata, ferme 0.4 mm longa, perparum ciliata; laminae anguste lanceolatae, longo-acuminatae; paniculae terminales satius sparsim florentes; spiculae 4.0-4.5 mm longae; glumae et lemma inferius molliter membranaeae; flosculus superior 2.5-2.8 mm longus; rachilla-appendiculae circa 1.0 mm longae.

Perennial; culms slender, elongate, branching, 3 m or more long, with many stilt roots; internodes as much as 7.0 cm long, more or less short pilose; sheaths about 1/2 the length of the internodes, pubescent like the culms or glabrescent, the margins ciliate, mostly about 2.5 cm long or the uppermost to 7.0 cm long; collar short pilose; ligule membranous-ciliate, about 0.4 mm long, minutely ciliate; blades narrowly lanceolate, long acuminate, asymmetric, 7-9 cm long, 0.5-0.8 cm wide, the upper surface more or less short pilose and somewhat scabridulous, the lower surface pubescent or nearly glabrous; inflorescence a terminal panicle, rather sparsely flowered, 13 cm long, 4-5 cm wide, the lower branches alternate, as much as 3.5 cm long, the middle and upper subverticillate; rachis scaberulous; pulvini pilose; pedicels short, scaberulous and short pilose at base; spikelets paired and solitary, tinged with purple, elliptic-acuminate, 4.0-4.5 mm long; glumes and lower lemma softly membranous; first glume ovate, acuminate to attenuate, 3.5-4.5 mm long, pilose on the margins, barely shorter than to exceeding the lower lemma, 3-nerved; second glume alliptic-acuminate, 3.8-4.0 mm long, 5-nerved; lower floret staminate, the stamens about 2.0 mm long; lower lemma elliptic, the apex hyaline and hooded, 3.3-3.5 mm long, scabridulous on the upper outer surface or smooth, 5-nerved; lower palea elliptic, obtusish, 2.7-2.8 mm long, about 0.8 the length of the lower lemma; upper floret narrowly elliptic-acute, 2.5-2.8 mm long, the stamens about 2.0 mm long; rachilla-appendages about 1.0 mm long.

Holotype: Itacolúmy, East of Ouro Preto, el. 1300 m, edge of brushy woods, mountain slope, Minas Geraes, Brazil, collected by Agnes Chase, no. 9412-I, April 1925 (US, no. 1257590).

Additional specimens examined: Brazil: Minas Geraes: Itacolúmy, East of Ouro Preto, Chase 9412 II (US); *ibid*, Chase 9411 (US).

ICHNANTHUS PILOSUS K. E. Rogers, sp. nov.

Culmi graciles, late ramosi, verrentes, rami florescentes ascendentes usque ad 15 cm; internodi papilloso-pilosi; vaginae papilloso-pilosae pilos extensos gerentes; ligula membraneo-ciliata, 0.5-0.7 mm longa; laminae ovatae, 1.0-3.0 cm longae, 0.5-0.8 cm latae, ambobus paginis papilloso-pilosae; paniculae terminales, paucae florentes, vix exsertae vel in basim aliquantum inclusae; rachis plus minusue pilosa; pulvini pilosi;

spiculae anguste ellipticae, attenuatae, 4.0-4.5 mm longae; gluma prima ovata, longo-acuminata; gluma altera anguste elliptico-ovata, longo-acuminata; flosculus superior anguste ellipticus, acutus, 1.9-1.9 mm longus.

Apparently annual; culms slender, extensively branching, trailing, rooting at the nodes, with ascending flowering branches as much as 15 cm high; internodes papillose-pilose, as much as 3.5 cm long; nodes papillose-pilose; sheaths papillose-pilose with spreading hairs, about 1/2 the length of the internodes, overlapping on the branches, mostly 0.5-1.0 cm long; collar pubescent; ligule membranous-ciliate, 0.5-0.7 mm long; blades asymmetric, ovate, acute to short acuminate, 1.0-3.0 cm long, 0.5-0.8 cm wide, thinnish, papillose-pilose on both surfaces; inflorescence a terminal, few-flowered panicle, barely exerted or partly included at base, 1-2 cm long, 0.3-1.0 cm wide; panicle branches simple, as much as 0.8 cm long; rachis scaberulous and more or less pilose; pulvini pilose; peduncle 1 cm or less long, papillose-pilose; pedicels scaberulous and short pilose, the longer 1.0-2.3 mm long, the shorter 0.2-0.5 mm long; spikelets paired and solitary, narrowly elliptic, attenuate, 4.0-4.5 mm long; glumes and lower lemma membranous; first glume ovate, long acuminate, 3.2-3.7 mm long, papillose-pilose between the lateral nerves with spreading hairs, slightly shorter than the lower lemma, 3-nerved; second glume narrowly elliptic-ovate, long acuminate, 4.0-4.3 mm long, papillose-pilose between the nerves with spreading hairs, 5-nerved; lower lemma elliptic, acute, 3.3-3.6 mm long, 5-nerved; lower palea narrowly elliptic-acute, 1.6-1.8 mm long, about 1/2 the length of the lower lemma; upper floret narrowly elliptic, acute, 1.8-1.9 mm long, about 0.7 mm wide, on a stipe about 0.2 mm long; rachilla-appendages about 0.8 mm long.

Holotype: Belterra, mata; forma tapêtes; Para, Brazil, collected by Black, no. 47-1013, July 10, 1947 (IAN, no. 29487; isotypes at US, NY).

Additional specimens examined: Brazil: Maranhão: Perizes; Black, Pires, and Lima 54-16566 (IAN).

This specific epithet is descriptive of the pubescence, the plants being essentially papillose-pilose throughout.

ICHNANTHUS RAMOSISSIMUS K. E. Rogers, sp. nov.

Culmi plus minusue lignosi, multum ramosi, ascendentes altitudine usque ad sex pedes aut plus; internodi papilloso-pilosi per unam aut duas lineas vel paene glabrosi; ligula membraneo-ciliata, 0.4-0.5 mm longa, ciliar minutum; laminae anguste lanceolatae, longo-acuminatae; paniculae terminales; spiculae 3.6-4.0 mm longae, glabrae; glumae et inferior lemma

tenuiter membranaceae; prima gluma ovata, brevior quam vel etiam excedens lemma inferius; superior flosculus elliptico-acutus, ferme 2.3 mm longus; rachilla-appendiculae 0.6-0.8 mm longae.

Perennial; culms more or less woody, much branched, clambering to about 6 or more feet; internodes papillose-pilose in one or two lines or nearly glabrous, up to 11 cm long; sheaths 1/2-3/4 the length of the internodes, papillose-ciliate on the margins, 3-5 cm long or the uppermost to 9 cm long; collar pubescent; ligule membranous-ciliate, 0.4-0.5 mm long, the ciliar minute; blades narrowly lanceolate, long acuminate, the base unequally cordate, 9-14 cm long, 0.8-1.2 cm wide, the upper surface with scattered short, soft hairs and more or less scabridulous, the lower surface more or less short pubescent or glabrescent; inflorescence paniculate, terminal, 15-15 cm long, 3-5 cm wide, pulvini pilose, rachis scabridulous, lower branches solitary, as much as 7.5 cm long, the middle and upper subverticillate, ascending, secondary branches appressed, to 1.5 cm long, peduncle as much as 9 cm long; spikelets paired and solitary in the inflorescence, short pedicellate, elliptic-acuminate, 3.6-4.0 mm long, glabrous; glumes and lower lemma thinly membranous; first glume ovate, the apex acuminate to attenuate, 3.8-4.0 mm long, shorter than to exceeding the lower lemma, 3-nerved; second glume ovate-elliptic, acuminate, 3.6-3.8 mm long, 5-nerved; lower floret staminate, the stamens about 1.4 mm long; lower lemma elliptic, the apex hooded and hyaline, 3.0-3.2 mm long, 5-nerved; lower palea elliptic-acute, 2.7-2.9 mm long, 0.8 the length of the lower lemma to nearly equalling it; upper elliptic-acute, about 2.3 mm long; upper stamens about 1.3 mm long; rachilla-appendages 0.6-0.8 mm long.

Holotype: Rio Cacador, Santa Catarina, Brazil, collected by Jason R. Swallen, no. 8293, January 22, 1946 (US, no. 1960931).

Additional specimens examined: Santa Catarina: W of Rio Negrinho, Smith and Klein 12044-A (US); Anita Garibaldi, Reitz and Klein 14793 (US). Parana: Ponta Grossa, Swallen 8454 (US); Curitiba, Swallen 8595 (US); *ibid*, Swallen 8545 (US); Guarapuava, Swallen 8937 (US); Dusen 4257 (US).

The specific epithet is descriptive of the the much branched culms.

ICHNANTHUS TENUIFOLIUS K. E. Rogers, sp. nov.

Culmi elongati, graciles, verrentes, se ad multos nodos radicanes, rami florentes et ascendentes usque ad 12 cm vel altiores; internodi molliter pilosi in ordinibus; vaginae maxima ex parte 1 cm vel minus longae, multo breviores quam internodi in principales culmos, multo in ramos suprapositae; ligula membranaceo-ciliata, exigua, 0.4-0.5 mm longa; laminae lanceolato-

acuminatae, tenues, 3-6 cm longae, 0.5-0.8 cm latae; paniculae terminales, 1.5-2.2 cm longae, 0.5-1.0 cm latae, raro florentes, vagina superior tantum 1-2 flores exhibens; spiculae 3.0-3.4 mm longae, glabrosae; rachilla-appendiculae 0.5 mm longae.

Annual; culms elongate, slender, trailing, rooting at many nodes, with ascending flowering branches to 12 cm or more high; internodes softly pilose in lines, at least below the nodes, to 5.5 cm long on main culms; nodes pilose; sheaths mostly 1 cm or less long, much shorter than the internodes on main culms, mostly overlapping on branches, softly pilose; collar pubescent; ligule membranous-ciliate, minute, 0.4-0.5 mm long; blades lanceolate-acuminate, asymmetric, thin, 3-6 cm long, 0.5-0.8 cm wide, the upper surface glabrous or sparsely pubescent, the lower surface puberulent; panicles terminal, 1.5-2.2 cm long, 0.5-1.0 cm wide, few flowered, 1-2 from the uppermost sheath, consisting of 3-5 short, alternate, appressed branches as much as 0.8 cm long; peduncles to 5 cm long; spikelets paired and solitary, 3.0-3.4 mm long, glabrous, on pedicels 0.5-2.5 mm long; glumes and lower lemma membranous, with hyaline margins; first glume ovate-acuminate, 2.8-3.4 mm long, shorter than to exceeding the lower lemma, 3-5 nerved; second glume ovate-elliptic, short acuminate, 2.7-3.0 mm long, 5-nerved; lower floret staminate, the stamens 1.0-1.3 mm long; lower lemma ovate-elliptic, the apex somewhat hooded and hyaline, 2.4-2.6 mm long, 5-nerved; lower palea elliptic-acute, 2.0-2.2 mm long, about 0.9 the length of the lower lemma; upper floret 2.0 mm long, 1.0 mm wide, elliptic-acute; rachilla-appendages 0.5 mm long.

Holotype: Rancho Grande, Parque Nacional, Venezuela, collected by Lucas, no. 40, May 18, 1942 (VEN, no. 22025).

Additional specimens examined: Venezuela: Rancho Grande, Aragua, Tamayo 2252 (VEN); Estado Garacuy, Silva nublada de Aroa, Aristequieta and Foldata 1479 (VEN).

This entity appears to belong to the I. nemorosus species complex. It is distinguished by the slender culms with ascending branches, the short sheaths, the minute ligule, the small, few-flowered terminal panicles, and the narrow leaf-blades.

The specific epithet given to this species is descriptive of the narrow leaf-blades.